

ASYMMETRIC DATA PATH MEDIA ACCESS CONTROLLER

5 ABSTRACT OF THE DISCLOSURE

10 A method and apparatus for maintaining data throughput in  
a data element includes receiving a clock and a first plurality  
of instances of data having a first width on an input, sampling  
consecutive ones of instances of the data having the first width  
at consecutive ones of a first rising edge and a first falling  
edge of the clock, respectively, to generate two plurality of  
instances of sampled data having a first width. The plurality  
of instances of sampled data is then sampled at a second rising  
edge of the clock and parallelized to generate a second  
15 plurality of instances of parallel data having a second width  
greater than the first width. The parallel data may then be  
processed to for example generate statistics to monitor link  
integrity, prior to being transmitted. A 10 Gbps data  
20 transmission speed may be maintained using the IEEE 802.3ae-  
specified media independent interface clock.

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